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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/553,044	04/20/2000	Yasufumi Kawamura	MAE-231	5877

23995 7590 01/12/2005

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EXAMINER

MONBLEAU, DAVIENNE N

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/553,044

Applicant(s)

KAWAMURA, YASUFUMI

Examiner

Davienne Monbleau

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 2 and 4 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 3 and 6-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

EX PARTE QUAYLE

Claim Objections

Claim 3 recites the limitation “the preceding one provides the second signal to the following one” in lines 1-2. There is insufficient antecedent basis for this limitation. Examiner believes that perhaps the claim is intended to be dependent on Claim 2 rather than Claim 1.

Regarding Claim 6 line 4: -- the -- should be inserted before “required.”

Regarding Claim 7 line 2: “receive” should be changed to -- receives -- .

Regarding Claim 8 line 8: “one of the two” should be changed to -- one of two -- .

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Allowable Subject Matter

Claims 1, 2, 4, and 5 are allowed.

The following is an examiner’s statement of reasons for allowance: the cited prior art of record does not teach or fairly suggest a control circuit comprising, along with the other claimed features, a plurality of sensor boards connected in cascade, a main control board connected to a first one of said plurality of sensor boards and to a final one of the plurality of sensor boards, and wherein each of said plurality of sensor boards provides sensor output onto a signal path at a predetermined timing and said main control board receives the sensor output at the predetermined timing.

The advantages of these features are in the specification on pages 1-2. In particular, the Applicant states on page 1 that these features provide a control circuit structure with a minimum

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number of cables and wires and that the wires can be routed in a minimum assembly time without difficulty and are not obstacles to trouble shooting. The prior art of record does teach that circuit boards can be connected in series, either vertically or horizontally. However, it does not teach that a main control board is connected to a first board and to a final board in the series. Additionally, there is no teaching of the claimed timing structure.

Claims 3 and 6-8 would be allowable if rewritten to overcome the objection(s) set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Quinn (U.S. 6,252,780) teaches a photosensor array mounted on printed wiring boards.

Yoon et al. (U.S. 6,233,157) teaches a printed circuit board and a method for wiring signal lines on the board, wherein the boards are connected in series and parallel.

Katakura et al. (U.S. 5,864,253) teaches a high-speed transmission circuit with plural internal circuitry.

Noschese (U.S. 5,575,686) teaches stacked printed circuit boards connected in series.

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Taska (U.S. 4,856,091) teaches a radiation-coupled daisy chain comprising interconnected boards with detectors.

This application is in condition for allowance except for the following formal matters:

See objections above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.


A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Davienne Monbleau
DNM


DAVID PORTA
SUPERVISORY PATENT EXAMINER
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